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G M. 1916
249 g
SL. No. 1-4.

Annual Administration of the

Meteorological Dept-

G. R. S. IX-5]

Previous references.

File No. 249

Serial Nos. 1–4

1916.

(54)

Later references.

G.M. 279-17 (1-3)
42 26 Sns 1-6

GENERAL AND REVENUE SECRETARIAT.

Serial Nos.

Part B for Feb'17

SUBJECT.

Annual Admn Report of the Meteo. Meteorological Dept.

To Secretary Reuter & Rev. Comm: G. 5815-16 dt 6-11-16
Records the
Pol. 815 dt 9.2.17
forwards 2 copies of ——— to 7 A Printed

JN
5.6.

W D 88—GPB—50,000—24-7-16

9/2/17

GENERAL AND REVENUE SECRETARIAT.

(Revenue)

NOTES.

File No.

FILE HEADING.

Annual admn report of the Meteorological Deptt

From

The Meteorological Reporter to govt

No. 130 Dated 2nd Sept 1916 Received 4/5-9-16

Diary No. 2118	Enclos.	Spare Copies.	Serial No. 1

BRIEF ABSTRACT OF LETTER.

Forwards three copies of the annual report of the working of the Deptt for 1915-16.

NOTES AND ORDERS.

1/ One of the three copies will be sent to the Report section, the second sent to the Press for print & the third sub with Dup review.

BR 5-9-16

2 Subd for orders to the Admn. Reptn section for retaining the copy of the report & returning the file.

3 A copy of the above report is retained in the A R section & the file returned to the Branch

VS 5.9.16

5/9/16

NOTES—First Sheet.

2118 2

G. R. S. 12J

General and Revenue Secretariat.

File No. 249 of 1916.

Serial No.	
	Draft forwarding a copy of the Report to the Supdt Govt Press is putup for approval 8/9/16 VB 8/9/16 5 June 11/ 6/9/16
2	To, The Supdt Govt Press No G 3195 of 7-9-16 Forwards a copy of the Adm Report referred to in Sl 1 and requests him to print 200 copies of the same To, The meteorological Dept No G 3196 of 7-9-16 Forwards Copy of the above
6	Subs with a draft review 8/9/16 with reference to the remarks in para 25 of the report it is submitted that the daily weather cards received in the General Branch are simply deposited. In view of the fact that similar cards are said to be supplied to the Daily Post & to Mr Johnson Paris Correspondent, it is for consideration if the cards

NOTE—Contn. sheet.

GPB—70,000—17-12-15

Bv VI

211 S

G. R. S. 12]

General and Revenue Secretariat.

File No. 2669 of 1916-17

Serial No.

Received in the General Branch
may not be sent to the Press
Room for the use of the other
Press Representatives
resorting there.

This may be sent
to
Mr
5/10/16.

BR
14-9-16
23

VS

Please put up a draft as
desired

Hy
23/9

Rec'd 23/9
KS

Typed draft sub---

BR
25/9/16

VS

Draft in accordance with
Hy's note

Hy
25/9

Hy. 2nd
Asst Secretary

Hy
5/10/16 6/10

111
10.10.16

Dewan

11

Please submit draft to Member Hy 11.10

Hon'ble Revenue approved

Dewan 11/10

270
17.10.16

Cells

17/10

Mr
17/10

Hy
18/10/16

Dewan
Hon'ble Mr. F.
18

Draft approved by Dewan.

Dewan 19/10

20.10.16

Mr Thew
19/10/16
2060
19.10.16

Hy
23/10

NOTE—Contn. sheet.

GPB—70,000—17-12-15

4

2118

G. R. S. 12]

General and Revenue Secretariat.	File No.	of 191 .
Serial No.		
	(4 write a copy	
	keep)	4 30/11/16
2234 / 31-10-16	Dewan	on 4 30/10

NOTE—Contn. sheet.

GPB—70,000—17-12-15

Submitted to His Highness.

× draft for approval.

'Enc. 6 Papers under disposal.

The accompanying draft× of a review on the administration report× of the Meteorological Department for the year 1915-16, may be approved.

M. Visvesvaraya -

31st Oct 1916.

6

2118

Record of Cases submitted for the Orders of His Highness the Maharaja

Subject.

Draft review of the Administration Report of the Metecrological Department for the year 1915-16.

421

Order.

~~KRM~~

2/11/16

Sanctd

3.11.16

2118

G. R. S. 12]

General and Revenue Secretariat.

G.M. File No. 2118 of 1916-17

Serial No.	
—	Draft approved may issue 8/2 4-11-16 M 4/11
3	To: The Meteorological Reporter to Govt. Rev: commissioner in Deccan. No: G. 5815-16 dt. 6.11.16. Records the report referred to in Sl. 1. Draft Subd. forwarding two copies of the Annual Administration Report of the Meteorological Dept for 1915-16, to the Residency. 8/2 7.2.17 Issue 8/2/17
4	To the P. A. Resident, PR 875 dt 9-2-17 Forwards 2 copies of the Administration Reports referred to in Sl 1.

NOTE—Contn. sheet.

GPB—70,000—17-12-15

No. 130
Encs. 3.

DIARY NO. 2118

1916-1917
SECTION G.M.
FILE NO 127-16
G.M. 24-9-16.

From

N. Venkatesa Iyengar, Esq., B.A.,
Meteorological Reporter,
Mysore Government.

To

D. M. Narasinga Rao, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
General Department, Bangalore.

Dated Bangalore, the 2nd September 1916.

S i r,

With reference to your letter No.G.288-328/G.M.127-16-1 dated 10th July 1916, I have the honour to submit herewith, in triplicate, the Report on the Administration of the Mysore Meteorological Department for the year 1915-1916.

I have the honour to be,
S i r,
Your most obedient servant,

A. Venkatesa Iyengar

Meteorological Reporter,
Mysore Government.

BK.

SEP

1916-17.

From

The Meteorological Reporter,

Mysore Government.

To

The Secretary to the

Government of Mysore,

General Department.

Dated } 2nd

Despatched }

Received

No. 125

Fwd 3.

S U B J E C T.

Submitting in triplicate the Report on the Administration of the Mysore Meteorological Department f the year 1915-16.

REPORT ON THE ADMINISTRATION OF THE METEOROLOGICAL DEPARTMENT FOR THE YEAR 1915-1916.

--:oOo:--

CONTROL. The Meteorological Reporter to Government was in administrative charge of the Department throughout the year except for a short period of eleven days from the 15th to 25th February 1916, during which he was on privilege leave. During his absence, Mr. B. N. Garudachar, First Assistant in the Central Observatory, Bangalore, was in charge of the Observatory and office in addition to his own duties.

2 Change of personnel.- Mr. R. Krishna Iyengar, B.A. Assistant Master and Meteorological Observer at Chitaldrug, was relieved of his duties on the 6th September 1915 by Mr. S. Krishna Rao, B.A., while the former took over charge of the observatory at Mysore on the 17th September 1915 from Mr. A. Venkatesiah, B.A., who was relieved of Meteorological work at his own request.

3 Mr. D. Vyasa Rao, B.A., was appointed Meteorological Observer at Hassan in room of Mr. K. Raghavachar, B.A., transferred to Shimoga as assistant master in the High School there. The former took over charge of the observatory on the 7th January 1916.

4 2. OBSERVATORIES. During the year there was no change either in the number or status of the observatories maintained by the State, particulars of which are given below.

Name of observatory.	Class.	Remarks.
Bangalore.	I	Started as a second class station from the 1st April 1892 and raised to the rank of first class from the 1st January 1895.
Mysore.	III	Commenced as a second class station from 10th May 1893 and reduced to third class from the 17th November 1911.
Hassan.	III	Began as a second order station from the 20th November 1892 and reduced to third class from August 1907.
Chitaldrug.	III	Commenced as a second class observatory from the 1st August 1892 and reduced to third class from August 1907.

5 The first class observatory at Bangalore is equipped with autographic instruments for the continuous registration of air pressure, temperature, wind velocity, wind direction, sunshine and rainfall in addition to instruments read by the eye. The remaining three third class stations are furnished with eye instruments only which are read once daily at 8 hrs.

6 3. RAIN-GAUGE STATIONS. In addition to the above observatories, the Meteorological Reporter has the control of rain-gauge stations in the State, the number of which stood at 225 on the 30th June, same as the previous year. The opening of a new station at Chelur in the Bagepalli Taluk of the Kolar District was sanctioned on the recommendation of the Deputy Commissioner during the year, but the registration of rainfall has not as yet begun there.

7 The number of rain gauges distributed locally in

some of the District Head quarters remained the same as in the previous years viz., 4 in Bangalore, 5 in Mysore, 2 in Hassan, and 1 in Shimoga.

8 The following statement shows the distribution of rainfall stations by Districts as on the 30th June 1916.

District.	No. of stations 30-6-'15	No. of stations opened during 1915-16.	No. of stations closed during 1915-16.	No. of stations on 30-6-1916.
1.Bangalore.	32	...	...	32
2.Kolar.	27	...	...	27
3.Tumkur.	40	...	...	40
4.Mysore.	36	...	...	36
5.Hassan.	24	...	...	24
6.Shimoga.	24	...	...	24
7.Kadur.	19	...	...	19
8.Chitaldrug.	23	...	...	23
9 Province	225	---	---	225

State

N.B. The Estate rain gauge stations in the Malnad parts of the Hassan and Kadur Districts have been omitted as they are not subject to Government inspection.

9 4. FIRST CLASS OBSERVATORY, BANGALORE: The following autographic instruments were in use in the Bangalore Observatory during the year.

(1) Photo Barograph, (2) Photo Thermograph, (3) Richard's Barograph, (4) Beckley's Anemograph, (5) Pluviograph and (6) Campbell-Stokes Sunshine Recorder.

The other eye instruments were:-

(a) a battery of two solar maximum thermometers for registering the highest temperature in the sun,

(b) two grass minimum thermometers for recording terrestrial radiation,

(c) two earth thermometers for recording underground temperatures at 3 ft. and 6 ft. depths respectively,

(d) a Michie Smith's differential rain-gauge read at 4 P.M. on the last day of the month,

(e) the ordinary complement of instruments for taking eye observations of pressure, temperature, wind velocity, wind direction and rainfall.

10 The self-recording instruments worked satisfactorily and uninterruptedly during the year except the Anemograph which was dismounted and throughly overhauled on the 13th December 1915. It took eight hours to thoroughly clean the different parts and refit them. The hourly values of the various self-registering instruments have been reduced and tabulated during the year for publication.

11 The registration of the maximum and minimum temperatures in the Stevenson's screen for comparison with those recorded in the shed of approved Madras pattern was continued during the year. The dry and wet bulb thermometers exposed therein were also read daily at 7 hrs., 11 hrs., 13 hrs., 15 hrs., and 17 hrs.

12 5. UPPER AIR RESEARCH. Pilot balloon observations for investigating the velocity and direction of upper air currents which were commenced in May 1915 at Bangalore have been continued during the year together with cloud observations with the "Nephescope" three times daily at 8 hrs., 12 hrs. and 16 hrs. It may be mentined here that guttapercha tissue for making balloons

and hydrogen gas required for filling them are supplied by the Director, Aerological Observatory, Agra at the instance of the Indian Meteorological Department. On account of some temporary difficulty experienced at Agra in the supply of material necessary for making hydrogen as the war has greatly interfered with the shipping of the same, balloons were flown at Bangalore for lack of gas every three days from 4th December 1915 to 3rd February 1916, and on alternate days from 11th March to 6th June 1916 instead of daily as usual.

13 The observations taken during the flights have all been plotted, curves and diagrams drawn, heights and distances calculated and the final results tabulated and forwarded to the Director, Aerological Observatory, Agra almost every week during the year as arranged. The opinion of the Director-General of Observatories regarding the importance of these observations and his estimate of our work will be found elsewhere in this Report.

Additions to the Observatory Building at Bangalore.-

14 In connection with balloon flights, the construction of a room with wooden sides on the roof of the observatory to the east of the central turret and adjoining it and of a flight of steps to the north of the observatory leading to the roof to give free and easy access to the room above mentioned and to enable the long and heavy iron gas cylinders being easily carried upstairs was completed during the year.

15 The balloon which is prepared downstainrs in the Barometer room is filled with gas in this new room and flown from the roof; while the Theodolite for observing the path of the balloon in its flight upwards

is fixed on the South-East turret which commands an extensive and uninterupted view of the country around .

16. OBSERVATIONS.- The daily 8 hours observations were, as usual, taken with great regularity during the year at all the four Observatories and the daily weather telegrams despatched from Bangalore to Simla, Bombay and Madras, from Mysore and Chitaldrug to Simla and from Hassan to Madras, for inclusion in the daily weather reports issued from those centres. The registers of the daily 8 hours observations at each of these places together with copies of the daily weather telegrams were also forwarded punctually at the end of each month to Simla, and the monthly registers of the 10 hours and 16 hours observations recorded at the Bangalore Observatory in addition were sent to Calcutta for inclusion in the Monthly Weather Review.

17 No mistakes were detected by the Simla Office in the Bangalore observations during the official year ending 31st March 1916, nor were any made in the preparation of the weather telegrams despatched daily. The number of mistakes in the Mysore Observations was 4 and that in preparing the telegram was only one. In the Chitaldrug observatory 8 mistakes were detected in observations and none in preparing the telegram. In all cases in which the total number of mistakes is less than 25 for the twelve months, it is assumed that the observer carried out his observational duties on the whole satisfactorily. So, according to this rule, the Mysore observations were very satisfactory as in no case did the total number exceed 8. These mistakes are generally due to the acting observers who do the work during the absence of the permanent observers on leave.

18 7. INSPECTION OF RAIN-GAUGES.- It is satisfactory to note that out of a total of 225 stations no less than 204 or 91 percent were inspected as against 81 percent of the year previous. Of these 132 were inspected more than once.

19 To enable inspecting Officers to systematically inspect rain-gauges during their tours, books containing 20 rain-gauge inspection forms each were supplied at the suggestion of the Deputy Commissioner of Chitaldrug to all the rain-gauge stations one each, to be kept carefully by the rainfall observer and produced by him for the use of the inspecting officer at the time of his visit. This is an indication of the greater interest taken in Rain Registration by inspecting officers, and it no doubt conduces to increased accuracy of the rainfall records.

20 The following statement shows the distribution of rain-gauge stations by Districts as also the number inspected during the year.

Districts.	No. of stations on 30-6-1916.	No. of stations inspected during 1915-1916.	Percentage of inspections.
1.Bangalore.	32	32	100%
2.Kolar.	27	26	96
3.Tumkur.	40	28	70
4.Mysore.	36	36	100
5.Hassan.	24	21	88
6.Shimoga.	24	22	92
7.Kadur.	19	19	100
8.Chitaldrug.	23	20	87
Province.	225	204	91

8. SUPPLY OF RAIN-GAUGES AND MEASURE GLASSES.- During the year as many as 14 rain-gauges, 22 half-inch measure glasses and 15 rain receivers were issued. Of these, one rain-gauge and four measure glasses were sold and the proceeds of the sale credited to the Treasury.

9. PUBLICATION OF ANNUAL REPORTS. The twenty-second Annual Report on Meteorology in Mysore for 1914 was printed during the year and copies were distributed as usual. The twenty-third Annual Report for 1915 was also sent to the press during the year.

The Annual Report on Rain Registration in Mysore for 1914 was also printed during the year and copies were distributed. That for 1915 was compiled during the early part of 1916 and submitted to Government for orders on 22nd April 1916.

On account of increased work in addition to shortage of hands, it is much regretted that it was not possible during the year under report to undertake the publication of the hourly Values of the self-recording instruments of the Bangalore Observatory as sanctioned in Government Order No. G.12523-24--G.M.191-14-15 dated the 13th May 1915. It is proposed to take it up as soon as the proposal for the revision of the establishment of the observatory which is engaging the attention of the Government is sanctioned.

10. SUPPLY OF METEOROLOGICAL INFORMATION.- The usual Meteorological statements comtinued to be published weekly in the Mysore Gazette. The mean daily Meteorological results of the Bangalore Observatory were also forwarded during the year to the Secretary to Government, General Department, the Editor, Daily Post and to Mr. Johnson, Press correspondent; and reports of the daily

rainfall recorded at Bangalore were sent to the Private Secretary to the Dewan and to the Revenue Commissioner in Mysore.

10 A brief note on the weekly rainfall as published in the Gazette also continued to be submitted to the Dewan during the year. The daily maximum and minimum temperatures recorded in the Bangalore Observatory as also the daily mean wet temperatures were sent as usual to the Officer Commanding Station Hospital, Civil and Military Station, Bangalore.

11 11. INSPECTION OF OBSERVATORIES.- The Meteorological Reporter to Government inspected the Observatories at Hassan, Chitaldrug and Mysore in April 1916 and submitted copies of his report to the Government for information. The observatories were found in good order and the work was satisfactory. The Meteorological Office at the Bangalore Observatory was also inspected by the Meteorological Reporter on the 31st March and 1st April 1916 and a copy of the inspection report was submitted to the Government.

12 12. ADDITIONS TO THE LIBRARY.- One hundred and seventy-five books and pamphlets either purchased or presented by scientific bodies, were added to the Library during the year.

13 13. STATEMENT OF EXPENDITURE DURING THE YEAR 1915-16.

Name of office.	Establishment charges.	Contingent charges.	Travelling allowance.	Total.
Bangalore Obsy.	10668-15-5	1015-8-4	161-2-0	11,845- 9- 9
Mysore ,,	347- 1-4	4-0-0	...	351- 1- 4
Hassan ,,	300- 0-0	4-0-0	...	304- 0- 0
Chitaldrug ,,	300- 0-0	4-0-0	...	304- 0- 0
Total...	11616- 0-9	1027-8-4	161-2-0	12,804-11- 1

30 Temporary

14. OPENING OF METEOROLOGICAL OBSERVATORIES ON THE HILL STATIONS OF NANDI AND BABABUDANS.- At the request of the Secretary to the Agricultural Committee of the Mysore Economic Conference who in a note prepared by him in connection with the establishment of silk-worm seed stations, suggested the opening of Meteorological observatories for recording temperature, humidity and rainfall only at the above mentioned places where, it is understood, silkworms thrive and improve in the temperature and other conditions obtaining, plans and estimates for the construction of ~ thermometer sheds for exposing the instruments were prepared in this office and forwarded to the Secretary. I must not omit to mention here that the Director General of Observatories has very kindly allowed the use for the above purpose of the thermometers kept by the Indian Meteorological Department in the store of the Bangalore Observatory and has also sent one wet minimum thermometer to provide two complete sets.

31 15. GENERAL REMARKS.- The work of the Bangalore Observatory has gone on increasing with lapse of time and to this has been added pilot balloon observations for investigating in collaboration with the Meteorological Department of the Government of India, the velocity and direction of upper air currents with a view to correlate them with weather. It may as well be added that the work of the Meteorological Department is as exacting and onerous as that of any other Department of the State and is unlike it only in its being unobtrusive on account of its scientific character.

32 The importance of the work of the Mysore Meteorological Department and more especially of that of pilot balloon observations now being carried on in the Bangalore Observatory will be evident from the extracts

quoted below:-

33 Letter No. 8806 dated the 3rd December 1915 from the First Assistant to the Resident in Mysore to the Dewan of Mysore.

34 "He (Dr. Gilbert Walker) was looking forward to the pleasure of a visit to Mysore and of personally thanking the Durbar officials for the friendly and efficient manner in which they have co-operated with him and his staff in upper air research. But, as this does not seem possible, he has requested the Resident to convey to the Durbar an expression of the great obligations of the Indian Meteorological Department for the help the Durbar have rendered to them. Dr. Walker states that the results obtained in Bangalore are already beginning to give important information as to the movements in the higher strata of the atmosphere."

35 D.O. Letter No. 4109 dated the 27th July 1916 from Dr. Gilbert Walker, Director-General of Observatories to the Meteorological Reporter to the Government of Mysore.-

36 "Under present arrangements no station south of Agra other than Bangalore is working throughout the year, though in the North two more are continuously observing: all four, Agra, Bangalore, Simla, and Kojak are being used to determine the seasonal changes of air currents high up, and their special yearly characteristics, while for short periods of special weather one or two other stations are used temporarily in addition. Your pilot balloon flights are therefore likely to prove of considerable importance as representing conditions in south India which cannot otherwise be obtained: moreover the work done by your observatory is excellent in quality. As it forms an integral part of our scheme of upper air work for the benefit of meteorological science with special reference to India, I should be very sorry if it

were curtailed."

37 It is with much pleasure therefore that I bring to the notice of Government the willing and intelligent co-operation of the staff of the Central Observatory without which the results described above could not have been achieved.

Bangalore,
31st August 1916.

A. Venkata ...
Meteorological Reporter,
Mysore Government.

BK.

2 u/u 3 copies

Proceedings of the Government of His Highness the Maharaja of Mysore.

R e a d:-

The report on the administration of the Mysore Meteorological Department for the year 1915-16 from the Meteorological Reporter to Government with his letter No.130 dated the 2nd September 1916.

S 5-8 15-16/911 24-4-16-3

Order No. S [illegible] 24-4-16

Dated 6th November 1916.

R e c o r d e d. The work of the department during the year under review has continued generally on the same lines as in previous - - years. At the instance of the Director General of Observatories with the Government of India arrangements have been made for observations at the Central Observatory, Bangalore, for investigating the velocity and direction of upper air currents with the help of pilot balloons and Government are glad to note that the work has received the appreciation of that Officer. The Meteorological Reporter has also prepared plans and estimates for the construction of thermometer sheds at Nandi and the Bababudans for opening temporary observatories for recording temperature, humidity, and rainfall in connection with the establishment of Seed stations for the rearing of silk worms.

2. It is brought to notice that 9 per cent of the rain-gauge stations remained uninspected during the year under review by Revenue Officers. The work was most deficient in Tumkur where only 70 per cent of the stations were in-

[illegible]. The Revenue Commissioner is
requested to see that such omissions do not
[illegible] hereafter.

3. The expenditure during the year increased to Rs.11,[illegible] under establishment and Rs.[illegible] under contingencies from Rs.11,10[illegible] and [illegible] respectively during the previous year.

Secretary to Government,
Fin. and Agri.

To

The Meteorological Reporter to Govt.,
The Revenue Commissioner in Mysore.
[illegible]

G. R. S. 26]

GEN. & REV. SECRETARIAT
TYPING Sec.
8 FEB 1917

Diary No. of letter replied to

S. M. File No. 249-16
Serial No. 15

No. Pol. 815/E&R 2 copies

General and Revenue Secretariat
( )
, the 191 .

To

The F. A. Resident

Sir,

I am directed to forward herewith two copies of the Annual Report Administration Report of the Meteorological Department for the year 1915-16.

I have, etc,

W J 8/2/17

for Secy. to Govt.

Genl. Dept.

Date of issue 9-2-1917

Signed by B. on managing Rus

over.

SUBJECT.